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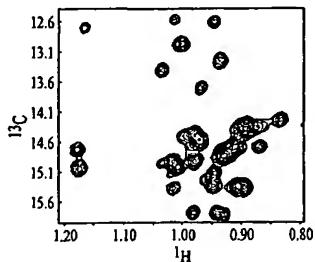
MD 20906 (US). HOMANS, Steve, W. [GB/GB]; 3 Hilton Mews, Bramhope, Leeds LS16 9LF (GB). CHENG, Minn-Chang [US/US]; 6116 Syracuse Court, Clarksville, MD 21029 (US). CHAYKOVSKY, Michael [US/US]; 9217 Quick Fox, Columbia, MD 21045-5312 (US). MURRAY, Jenny, Hong [US/US]; 9717 Dixie Ridge Terrace, Gaithersburg, MD 20882 (US).

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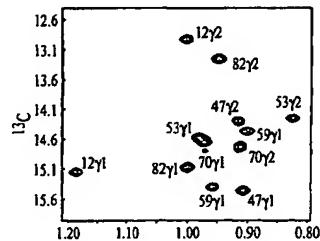
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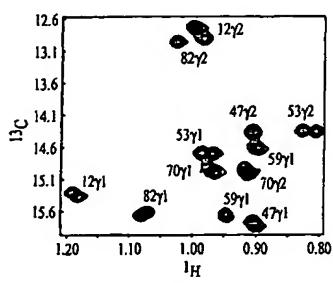
(54) Title: METHOD FOR OBTAINING DYNAMIC AND STRUCTURAL DATA PERTAINING TO PROTEINS AND PROTEIN/LIGAND COMPLEXES



A



B



C

(57) Abstract: This invention provides an NMR method for obtaining both entropic and enthalpic data on proteins and protein/ligand complexes which can be used to obtain accurate structural and dynamic data of proteins and protein complexes having a wide range of molecular weights. An embodiment of the invention provides proteins which contain at least one bond vector whose dynamics are to be measured and which is surrounded by NMR inactive nuclei, and amino acids for synthesis of the proteins via chemical means or biological expression. The NMR methods using specifically labeled proteins for analysis result in maximization of the sensitivity and resolution of the NMR experiments, and minimization of the loss of signal due to diffusion.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/18254

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A 61B 5/055; G01N 33/53
 US CL : 424/9.34, 9.341; 435/7.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 424/9.34, 9.341; 435/7.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EICHELE et al. Nitrogen-14 Coupled Dipolar-Chemical Shift 13C NMR Spectra of the Amide Fragment of Peptides in the Solid State, J. Phys.Chem. 1993, Vol. 97, pages 8909-8916, see entire document.	1-11
A	SCHWARZINGER et al. Sequence-Dependent Correction of Random Coil NMR Chemical Shifts, J. Phys.Chem. 2001, Vol. 123, pages 2970-2978, see entire document	1-11
A	US 5,989,827 A (FESIK et al.) 23 November 1999 (23.11.1999), see entire document.	1-11
A	US 5,891,643 A (FESIK et al.) 06 April 1999 (06.04.1999), see entire document.	1-11

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document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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document member of the same patent family

Date of the actual completion of the international search

11 March 2004 (11.03.2004)

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INTERNATIONAL SEARCH REPORT

PCT/US03.

Continuation of B. FIELDS SEARCHED Item 3:
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search terms: nmr, nuclei, amino acid, 13C, 15N, 1H